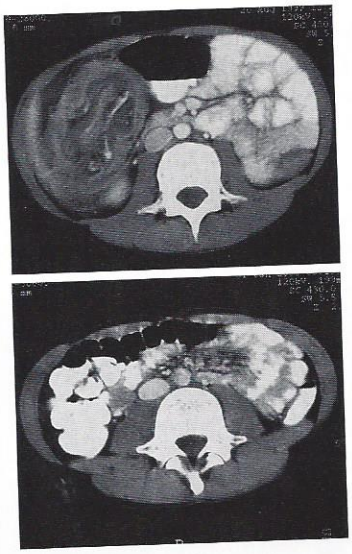
HOPE *for* CHILDHOOD CANCERS

BY MARY ANN LITTELL

Samantha Emerson (Sam to friends and family) is a bundle of energy. When she's not at school or her dance class, you're likely to find her playing with Charlie, her English springer spaniel. In many ways, she's a typical 9 year old.

But in other ways, Samantha is not typical at all. At her young age she is already a survivor. In August 1999 she was diagnosed with Burkitt's lymphoma, a virulent form of cancer that strikes young children. Samantha fought her illness with the help of physicians at The Cancer Institute of New Jersey (CINJ), and today, she is in remission. The fight is not yet over, but Samantha grows stronger every day. "If anyone can get through this, it's Sam," says her mother Kris. "She's not one to give up."



(Top) Grey mass at left in CT scan is Samantha Emerson's tumor. (Bottom) Following chemotherapy, the tumor has disappeared.

Samantha's symptoms began in the spring of 1999. "She was sick for months, with vomiting and stomach pains that grew worse over time," Kris recalls. "She couldn't keep any food down." The family consulted their pediatrician, who at first thought Samantha was suffering from the flu. After a few weeks, when she did not improve, she was referred to a pediatric gastroenterologist who diagnosed an infection of the intestinal tract.

Samantha was treated with antibiotics, but the symptoms did not go away. During the family's August vacation in Hilton Head, SC, they grew worse. "She was literally melting away before our eyes," says Kris. "One morning she threw up right on the beach. At that moment it sank in — this was really serious. We left for home that very afternoon."

Kris, now convinced her daughter had cancer or another life-threatening illness, took her back to the pediatric gastroenterologist. On August 25, Samantha underwent a colonoscopy. It showed a tumor the size of a man's fist in her small intestine, an indicator of Burkitt's lymphoma. The disease, rare in the U.S. but more common in Africa, tends to involve the abdomen in 80 percent of U.S. patients, but more often the jaw in Africa. Without therapy, it is rapidly progressive.

Samantha was admitted to Robert Wood Johnson University Hospital for treatment under the care of Barton Kamen, MD, PhD. He is professor of pediatrics at UMDNJ-Robert Wood Johnson Medical School (RWJMS) and director of Pediatric Oncology at CINJ. Kris Emerson's worst fears had been realized. "But at least now we knew what we were dealing with," she says.

Cancer is the leading disease-related cause of death in children between the ages of 1 and 14. Only accidents are responsible for more fatalities. While children are spared the typical "adult" malignancies of the colon, lung, breast and prostate, other devastating cancers take their toll.

Lymphomas account for some 12 to 14 percent of pediatric cancers. While Burkitt's lymphoma may affect all age groups, it is most common in children and young adults. Most patients with Burkitt's lymphoma develop abdominal tumors and severe anemia caused by internal bleeding. Like Samantha, they are diagnosed while seeking treatment for gastrointestinal problems.

According to Kamen, who is *continued*

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also chief of the Division of Pediatric Hematology/ Oncology in the Department of Pediatrics at RWJMS, the overall cure rate for pediatric cancer is 60 percent. "We have come a long way in treating pediatric cancer, but a lot of work still needs to be done in finding successful treatments for that other 40 percent," he says.

Kamen has been known to begin lectures by holding up a blowtorch and announcing, "There's no tumor I can't kill." It's his way of explaining what may not be obvious: that curing children of cancer using the best therapies available is not without its down side. The long-term effects of chemotherapy and radiation can be hazardous, particularly to a growing child. Some therapies harm the kidneys or heart. Others are neurotoxic and can severely hinder learning. "I treat kids, not cancer," he says. "And treating kids can be very difficult. Chemotherapy can take care of tumors, but what's the price of the cure? If there is a loss of IQ, or a chance of developing another cancer later in life, we need to weigh those factors too."

Kamen's bedside manner includes a host of magic tricks designed to put his young patients at ease. Parents see his magic in a different way. "Dr. Kamen told Samantha he was going to melt the tumor, and we believed him," says Kris. Through an intravenous line inserted by surgeons, Samantha was given two rounds of chemotherapy over a five-day period, and then sent home. She would receive additional treatments in 21-day cycles on an outpatient basis. The therapy, which included methotrexate, ARA-C, prednisone, cyclophosphamide, and other drugs, was designed to kill the rapidly growing cells that produced the tumor mass.

Throughout the fall, Samantha remained upbeat, even though the treatments exhausted her. She was hospitalized several times for high fevers, a side effect of chemotherapy. Though she was not able to attend school, she kept up with her class work with the help of tutors. All pediatric patients at CINJ receive help from counselors and child life specialists. When a child is diagnosed with cancer, counselors visit the school and explain the situation to classmates, teachers and administrators. Says counselor Christine Call-Sternberg, MTC, MAT, "We work with kids and their families on life issues, like staying in school. The last thing a sick child needs is to worry about being left back or failing." There is also a full-time, hospital-

Left to right: Patient Katie Andryca, Barton Kamen, MD, PhD, and counselor Christine Call-Sternberg

ARTHUR PAXTON